TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
U.S. DEPARTMENT OF AGRICULTURE · · FOREST SERVICE

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Age of Seed Tree and Earliness of Shoot Growth in Young Red Pine Seedlings

Progeny of very old or very young red pine seed trees are slower in starting terminal shoot growth in the spring than those of intermediate age, according to observations made in nursery seedbeds on the Chippewa National Forest in northern Minnesota.

More than 160 lots of seedlings grown from spring-sown seed produced by red pine trees of five broad age classes were examined early in June of their second year. Based on ocular observations of the relative amount of terminal shoot growth, each lot of seedlings was rated on a scale of 1 to 5 (fast - 1, medium - 3, slow - 5).

The results indicate that on the average shoot growth is slowest in starting among the progeny of trees under 30 years of age (limited amount of data) and those over 120 years of age, and fastest among the progeny of trees 81-120 years old (see table below). Because there are fast-, medium-, and slow-starting lots among the progeny of all ages of seed trees, earliness of starting shoot growth cannot be used to identify the seed-tree origin of young red pine seedlings.

Age of seed trees (Years)	Earliness of starting shoot growth: Average rating	Proportion of lots which were- Fast	Medium	Slow	Lots observed
		Percent	Percent	Percent	Number
15-30	3.7	17	33	50	6
31-50	3.2	16	55	29	74
51-80	3.4	12	55	33	38
81-120	3.0	21	58	21	28
121+	3.7	5	55	40	20
All ages	3.3	15	55	30	166

Seedlings of climatically adapted trees which begin shoot growth early often attain an advantage over slower starters both in the nursery and in the field. In a general way, therefore, results of these observations tend to confirm the common belief that thrifty mature trees make the best seed trees.

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